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REMARKS

Status of the Claims

Claims 1-4, 6-20, 22, 23 and 25-31 were pending in this application prior to this amendment. By this amendment, new claims 32-54 are presented. Claims 1-4, 6-20, 22, 23 and 25-54 are now pending. Reconsideration is respectfully requested in view of the following remarks.

Claim Rejections Under 35 U.S.C. §102(e)

Claims 1, 4, 7, 8 and 20 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,073,560 to *Stone*. Applicants respectfully traverse.

Amended claim 1 is set forth below:

> 1. A sabot having a longitudinal axis, comprising:
>
> a compression section defining a payload receiving chamber at a forward end of the sabot for receiving a slug therein, the compression section including a plurality of fins defined by a combination of alternating ridges on an interior and an exterior surface thereof, wherein the ridges are spaced from one another along the longitudinal axis; and
>
> a solid section extending rearwardly from the compression section;
>
> wherein the compression section is adapted to at least partially collapse along a direction of the longitudinal axis upon firing while remaining substantially intact to produce a volume change.

Referring to Figures 7-10, *Stone's* sabot 200 includes a plurality of petals 220 that extend from a back section 216 towards a front section 212 of the sabot 200 (col. 3, lines 11-12). Referring specifically to Figure 8, the petals 220 and recesses 221 are circumferentially or peripherally arranged about the longitudinal axis of the sabot 200. In the Office Action, the Examiner equates the petals 220 and the recesses 221 with the "alternating ridges" recited in claim 1.

Stone's sabot 200 fails to anticipate claim 1 at least in that amended claim 1 recites a compression section "including a plurality of fins defined by a combination of alternating ridges on an interior and an exterior surface thereof, wherein the ridges are spaced from one another along the longitudinal axis" of the sabot. *Stone's* petals 220 and recesses 221 are not spaced from one another along the longitudinal axis of the sabot 200, and are instead arranged about the sabot's periphery. It follows that the petals 220 cannot provide for collapse of the sabot 200 "along a direction of the longitudinal axis upon firing..." as is further recited in claim 1.

According to the Response to Argument section of the Examiner's Answer, the Examiner considers *Stone's* section 214, 212 to constitute a compression section because the "diameter around this section is smaller or more compressed than the diameter of the rest of the section." The Examiner further states that "Stone's section (220, 221, 223) can be considered as a plurality of alternating ridges on an interior and exterior surfaces since Stone's section (220, 221, 223) [is] defined by a combination of alternating ridges (223, 220) on an interior and an exterior surface." Applicants generally disagree with this characterization of *Stone's* petals 220 because the petals do not *collapse* during firing, but instead *open* in a direction *away from* the sabot to release the projectile therefrom. The intended action of *Stone's* petals 220 is shown by way of example by Figure 5 of *Stone*[1]:

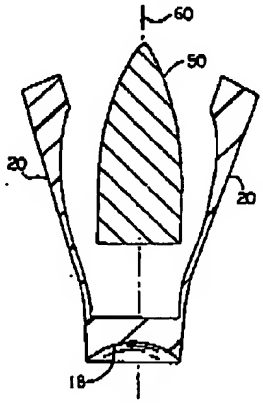

FIG. 5

[1] Although not specifically illustrated, it is assumed *Stone's* sabot 200 illustrated in Figures 7-10 will operate in a similar manner to the sabot 10 illustrated in Figure 5.

By contrast, claim 1 recites a compression section adapted to collapse "along a direction of the longitudinal axis upon firing."

Claim 8 recites a firearm round having a compression section including a "plurality of alternating ridges on an interior and an exterior surface thereof, wherein the ridges are spaced from one another along the longitudinal axis... [and] wherein the compression section is adapted to at least partially collapse along a direction of the longitudinal axis upon firing...." *Stone's* petals 220 are arranged circumferentially or peripherally on the sabot 200, and *Stone* therefore fails to anticipate claim 8.

In light of the above remarks, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §102(e) based on *Stone*.

Claim Rejections Under 35 U.S.C. §103(a)

In the Examiner's Answer, all of the pending claims were rejected over various combinations of *Stone* with *Gualandi*, *Hoffman*, *Dippold*, and *Stevens*. Before addressing the propriety of combining *Stone* with the various references cited under 35 U.S.C. §103(a), Applicants submit that *Stone*, either alone or when combined with the cited references, does not teach or suggest all elements of claims 1-4, 6-20, 22, 23 and 25-31. As such, none of the references, either alone or in combination, are sufficient to support a rejection under 35 U.S.C. §103(a). Each of the rejections under 35 U.S.C. §103(a) is discussed in detail below.

Stone and Hoffman

Claims 2 and 19 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Stone* in view of U.S. Patent No. 4,939,997 to *Hoffman*. Applicants respectfully traverse.

Hoffman is directed to an article of ammunition configured as a tubular projectile 1 into which a projectile core 6 is inserted (col. 2, lines 36-39). Like *Stone*, *Hoffman* does not teach or suggest a compression section defined by a combination of longitudinally spaced alternating ridges. *Hoffman* therefore fails to cure *Stone's* deficiencies in disclosing the combination of elements recited in independent claims 1 and 8.

Applicants further traverse on the grounds that the addition of *Hoffman's* locking ring to *Stone's* sabot would be an unnecessary modification involving added expense and complexity

with no accompanying benefit. Referring to Figure 3 of *Hoffman*, the spring ring 7 is required because the tubular projectile 1 is essentially annular. Without the ring 7, the projectile core 6 would slide through the cylindrical interior space 5 during firing setback. In the Examiner's Answer, the Examiner states it would have been obvious to "provide the locking ring [in *Stone's* sabot] as a securing device under centrifugal force and in response to the spin acting on the projectile/slug the locking ring will expand to facilitate the projectile/slug exiting from the sabot." This conclusion is erroneous because *Stone's* projectile 50 (Figure 5) is seated against the back section 16 of the sabot 10, and will be driven out of the firearm barrel by the back section 16. Any spin imparted on the projectile 50 would be imparted by contact with the back section during setback. The sole purpose of *Hoffman's* ring 7 is therefore rendered irrelevant when applied to *Stone's* sabot 200. Accordingly, one of ordinary skill in the art would not be motivated to modify *Stone* as proposed by the Examiner, and incur the added expense and complexity of manufacture to *Stone's* sabot, with no accompanying benefit.

Moreover, *Stone's* sabot 200 is unsuitable for the incorporation of a locking ring as disclosed in *Hoffman*. As shown in Figures 8 and 10 of *Stone*, the interior of the sabot 200 is only cylindrical at a very short section of the central section 214, adjacent the base section 242. This is a thin-walled section because the petal bases must be sufficiently pliable in order to pivot outwardly during firing (Figure 5). By contrast, referring to Figure 3 of *Hoffman*, the spring ring 7 requires a groove 9 of considerable depth to enable the ring to expand as needed in order to release the core 6, which in turn requires *Hoffman's* tubular projectile 1 to be thick at its rear. There is no similarly thick-walled annular section in *Stone's* sabot 200 in which to incorporate a groove/ring combination as shown in *Hoffman*. The rejection under 35 U.S.C. §103(a) based on *Stone* and *Hoffman* is therefore improper and should be withdrawn.

Stone and Gualandi

Claims 3, 9, 11-14 and 27-30 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Stone* in view of U.S. Patent No. 6,481,356 to *Gualandi*. Applicants respectfully traverse.

Gualandi is directed to a body that axially supports a bullet 7 on its end by a coaxial clutch on a column 6 that extends into a contact containment seat 10. Like *Stone*, *Gualandi* does not teach or suggest a compression section comprising longitudinally spaced ridges as recited in

claims 1, 8 and 27. *Gualandi* therefore fails to cure *Stone's* deficiencies in disclosing the combination of elements recited in independent claims 1, 8 and 27.

In the Examiner's Answer, the Examiner states that *Gualandi's* slug 7 discloses a driving band, and that it would have been obvious to incorporate such a driving band in *Stone's* projectile 50. Although not specifically named in the Examiner's Answer, Applicants understand that the Examiner intends to identify the annular projection at the front of *Gualandi's* slug 7 (shown in Figure 3) as a driving band. Applicants traverse on the grounds that the annular projection on *Gualandi's* slug 7 is intended to seat the slug 7 within the containment seat 10. By contrast, *Stone's* projectile 50 is securely seated within a conforming internal cavity 40, 240 of a sabot, and there is no need for such a ring on the projectile 50. The rejection under 35 U.S.C. §103(a) based on *Stone* and *Gualandi* is therefore improper and should be withdrawn.

Stone and Dippold

Claims 6, 10, 15, 16 and 18 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Stone* in view of U.S. Patent No. 5,263,418 to *Dippold et al.* Applicants respectfully traverse.

Dippold is directed to a sabot bullet having a constricted waist. *Dippold* does not teach or suggest a sabot or firearm round comprising a compression section defined by a combination of longitudinally spaced ridges. *Dippold* therefore fails to cure *Stone's* deficiencies in disclosing the combination of elements recited in independent claims 1 and 8. The rejection under 35 U.S.C. §103(a) based on *Stone* and *Dippold* is therefore improper and should be withdrawn.

Stone and Stevens

Claim 17 is rejected under 35 U.S.C. §103(a) as being unpatentable over *Stone* in view of U.S. Patent No. 5,361,701 to *Stevens*. Applicants respectfully traverse.

Stevens is directed to a shotgun tracer round for use in a shotgun barrel. *Stevens* does not teach or suggest a sabot or firearm round comprising a compression section defined by longitudinally spaced ridges. *Stevens* therefore fails to cure *Stone's* deficiencies in disclosing the combination of elements recited in independent claim 8. The rejection under 35 U.S.C. §103(a) based on *Stone* and *Stevens* is therefore improper and should be withdrawn.

Further Rejections Based on Stone, Gualandi, Hoffman and Dippold

Claims 22, 23, and 26 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Stone* in view of *Gualandi* and *Hoffman*. Claim 25 is rejected under 35 U.S.C. §103(a) as being unpatentable over *Stone* in view of *Gualandi* and *Hoffman*, and further in view of *Dippold*. Claim 31 is rejected under 35 U.S.C. §103(a) as being unpatentable over *Stone* in view of *Gualandi* and further in view of *Dippold*.

As discussed above, *Gualandi*, *Hoffman* and *Dippold* fail to cure *Stone's* deficiencies in disclosing the combination of elements recited in independent claim 22. The prior art fails to show every element recited in claim 22 and the rejections should therefore be withdrawn.

CONCLUSION

The foregoing is submitted as a full and complete response to the Examiner's Answer mailed June 19, 2006, and is believed to place all claims in the application in condition for allowance. Such action is courteously solicited.

If the Examiner believes that there are any issues that can be resolved by telephone conference, or if there are any informalities that may be addressed by an Examiner's amendment, please contact the undersigned at (404) 879-2443.

Respectfully submitted,

Date: 8-28-06

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